

# **WONDER-2012 – 3rd International Workshop on Nuclear Data Evaluation for Reactor Applications**

**EPJ Web of Conferences Volume 42 (2015)**

**Aix-en-Provence, France  
25-28 September 2012**

**Editors:**

**O. Serot  
C. De Saint Jean**

**O. Litaize  
G. Noguere**

**ISBN: 978-1-63266-188-3**

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

This work is licensed under a Creative Commons Attribution license:  
<http://creativecommons.org/licenses/by/2.0/>

**You are free to:**

**Share** – copy and redistribute the material in any medium or format.

**Adapt** – remix, transform, and build upon the material for any purpose, even commercial.

The licensor cannot revoke these freedoms as long as you follow the license terms.

**Under the following terms:**

You must give appropriate credit, provide a link to the license, and indicate if changes were made.

You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. The copyright is retained by the corresponding authors.

Printed by Curran Associates, Inc. (2014)

For additional information, please contact EDP Sciences – Web of Conferences  
at the address below.

EDP Sciences – Web of Conferences  
17, Avenue du Hoggar  
Parc d'Activité de Courtabœuf  
BP 112  
F-91944 Les Ulis Cedex A  
France

Phone: +33 (0) 1 69 18 75 75

Fax: +33 (0) 1 69 28 84 91

[contact@webofconferences.org](mailto:contact@webofconferences.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

## Preface

*Serot O., De Saint Jean C., Litaize O., Noguere G.*

## MICROSCOPIC AND INTEGRAL NUCLEAR DATA MEASUREMENTS

<b>Fission Fragment Characterization With FALSTAFF At NFS</b> .....	1
<i>Doré D., Farget F., Lecolley F.-R., Ledoux X., Lehaut G., Materna T., Pancin J., Panebianco S., the FALSTAFF and NFS Collaborations</i>	
<b>Neutron Capture And Fission Reactions On <math>^{235}\text{U}</math>: Cross Sections, <math>\alpha</math> -Ratios And Prompt <math>\gamma</math>-Ray Emission From Fission</b> .....	6
<i>Guerrero C., Mendoza E., Berthoumieux E., Cano-Ott D., González-Romero E., Sabate M.</i>	
<b>Neutron-Induced Cross Sections Of Actinides Via The Surrogate-Reaction Method</b> .....	11
<i>Ducasse Q., Jurado B., Aiche M., Mathieu L., Tornyi T., Görgen A., Wilson J. N., Barreau G., Companis I., Czajkowski S., Giacoppo F., Gunsing F., Guttormsen M., Larsen A. C., Lebois M., Matarranz J., Renstrøm T., Rose S., Siem S., Tsekhanovich I., Tveten G. M., Hagen T. W., Wiedeking M., Serot O., Boutoux G., Chau P., Méot V., Roig O.</i>	
<b>Neutron Transmission And Capture Of <math>^{241}\text{Am}</math></b> .....	16
<i>Lampoudis C., Kopecky S., Plompen A., Schillebeeckx P., Wynants R., Gunsing F., Sage C., Bouland O., Noguere G.</i>	
<b>(n,xn y) Reaction Cross Section Measurements For (n,xn) Reaction Studies</b> .....	21
<i>Kerveno Maëlle, Bacquias Antoine, Borcea Catalin, Dessagne Philippe, Drohé Jean-Claude, Nankov Nikolay, Nyman Markus, Negret Alexandru, Plompen Arjan, Rouki Chariklia, Rudolf Gérard, Stanoiu Mihai, Thiry Jean-Claude</i>	
<b>Measurement Of Mass Yields From The <math>^{241}\text{Am}(2n_{th},f)</math> Reaction At The Lohengrin Spectrometer</b> .....	26
<i>Amouroux Ch., Panebianco S., Bidaud A., Capellan N., Chabod S., Faust H., Kessedjian G., Köster U., Letourneau A., Martin F., Materna T., Sage Ch., Serot O.</i>	
<b>Development Of A Gas Filled Magnet Spectrometer Coupled With The Lohengrin Spectrometer For Fission Study</b> .....	31
<i>Kessedjian G., Chebboubi A., Faust H., Köster U., Materna T., Sage C., Serot O.</i>	

## EVALUATION OF NUCLEAR DATA (THEORIES, MODELS, CODES)

<b>Evaluation Of Neutron Induced Reaction Cross Sections In The Resolved And Unresolved Resonance Region At EC – JRC – IRMM</b> .....	35
<i>Kopecky S., Emiliani F., Kauwenberghs K., Lampoudis C., Massimi C., Schillebeeckx P., Sirakov I., Volev K.</i>	
<b>Evaluation Of Stable Tungsten Isotopes In The Resolved Resonance Region</b> .....	40
<i>Emiliani F., Guber K., Kopecky S., Lampoudis C., Massimi C., Schillebeeckx P., Volev K.</i>	
<b>Validation Of Capture Yield Calculations In The Resolved Resonance Energy Range With CONRAD Code</b> .....	45
<i>Litaize Olivier, Archier Pascal, Becker Bjorn, Schillebeeckx Peter, Kopecky Stefan</i>	
<b>Recent Developments In The CONRAD Code Regarding Experimental Corrections</b> .....	51
<i>Archier P., De Saint Jean C., Kopecky S., Litaize O., Noguère G., Schillebeeckx P., Volev K.</i>	
<b>A Dispersive Optical Model Potential For Nucleon Induced Reactions On <math>^{238}\text{U}</math> And <math>^{232}\text{Th}</math> Nuclei With Full Coupling</b> .....	57
<i>Manuel Quesada José, Soukhovitskii Efrem S., Capote Roberto, Chiba Satoshi</i>	

## UNCERTAINTIES AND COVARIANCE MATRICES

<b>Needs Of Reliable Nuclear Data And Covariance Matrices For Burnup Credit In JEFF-3 Library</b> .....	63
<i>Chambon A., Santamarina A., Riffard C., Lavaud F., Lecarpentier D.</i>	
<b>Pseudo-Measurement Simulations And Bootstrap For The Experimental Cross-Section Covariances Estimation With Quality Quantification</b> .....	70
<i>Varet S., Dossantos-Uzarralde P., Vayatis N., Bauge E.</i>	

<b>Status Of XSUSA For Sampling Based Nuclear Data Uncertainty And Sensitivity Analysis .....</b>	<b>75</b>
<i>Zwermann W., Gallner L., Klein M., Krzykacz-Hausmann B., Pasichnyk I., Pautz A., Velkov K.</i>	

## **GAMMA PRODUCTION**

<b>Nuclear Data Production, Calculation And Measurement: A Global Overview Of The Gamma Heating Issue .....</b>	<b>80</b>
<i>Colombier A-C., Amharrak H., Fourmentel D., Ravaux S., Régnier D., Gueton O., Hudelot J-P., Lemaire M.</i>	
<b>New Evaluation Of Photon Production For JEFF-3.....</b>	<b>85</b>
<i>Ravaux S., Bernard D., Santamarina A.</i>	
<b>A Monte Carlo Simulation Of Prompt Gamma Emission From Fission Fragments .....</b>	<b>90</b>
<i>Regnier D., Litaize O., Serot O.</i>	

## **PROCESSING AND BENCHMARKING**

<b>First Feedback With The Ammon Integral Experiment For The JHR Calculations.....</b>	<b>96</b>
<i>Vaglio-Gaudard C., Leray O., Lemaire M., Colombier A.C., Hudelot J.P.</i>	
<b>Reanalysis Of The Gas-Cooled Fast Reactor Experiments At The Zero Power Facility Proteus – Spectral Indices.....</b>	<b>101</b>
<i>Perret G., Pattupara R. M., Girardin G., Chawla R.</i>	
<b>Criticality Experiments And Benchmarks For Cross Section Evaluation: The Neptunium Case .....</b>	<b>106</b>
<i>Leong L.S., Tassan-Got L., Audouin L., Paradela C., Wilson J.N., Tarrío D., Berthier B., Duran I., Le Naour C., Stéphane C.</i>	
<b>Reactivity Effect Breakdown Calculations With Deterministic And Stochastic Perturbations Analysis – JEFF-3.1.1 To JEFF3.2T1 (BRC-2009) Actinides Application.....</b>	<b>116</b>
<i>Penelau Y., Morillon B.</i>	
<b>Improved MOX Fuel Calculations Using New Pu-239, Am-241 And Pu-240 Evaluations.....</b>	<b>122</b>
<i>Noguere G., Bouland O., Bernard D., Leconte P., Blaise P., Penelau Y., Vidal J.F., De Saint Jean C., Leal L., Schillebeeckx P., Kopecky S., Lampoudis C.</i>	

## **FISSION MODELING**

<b>Sub-Barrier Resonance Fission And Its Effects On Fission Fragment Properties, Exemplified On <sup>234,238</sup>U(n,f) .....</b>	<b>127</b>
<i>Tudora A., Hamsch F.-J., Oberstedt S.</i>	
<b>Intermediate Structures In Fission And Consequences On Average Partial Cross Sections .....</b>	<b>132</b>
<i>Bouland Olivier H.</i>	
<b>Intrinsic Energy Partition In Fission .....</b>	<b>138</b>
<i>Mirea M.</i>	
<b>Evaluation Of Excitation Energy And Spin In Fission Fragments Using The Statistical Model, And The FIPPS Project.....</b>	<b>143</b>
<i>Faust H., Kessedjian G., Sage C., Koester U., Chebboubi A.</i>	
<b>Modelling The Widths Of Fission Observables In Gef .....</b>	<b>148</b>
<i>Jurado B., Schmidt K.-H.</i>	

## **POSTER SESSION**

<b>Review Of The n_TOF Experimental Program For Reactor Applications .....</b>	<b>154</b>
<i>Guerrero C.</i>	
<b>Application Of GRS Method To Evaluation Of Uncertainties Of Calculation Parameters Of Perspective Sodium-Cooled Fast Reactor .....</b>	<b>160</b>
<i>Peregudov A., Andrianova O., Raskach K., Tsibulya A.</i>	
<b>Kriging Approach For The Experimental Cross-Section Covariances Estimation.....</b>	<b>166</b>
<i>Varet S., Dossantos-Uzarralde P., Vayatis N., Garlaud A., Bauge E.</i>	
<b>Processing And Validation Of JEFF-3.1.1 And ENDF/B-VII.0 Group-Wise Cross Section Libraries For Shielding Calculations.....</b>	<b>171</b>
<i>Pescarini M., Sinita V., Orsi R., Frisoni M.</i>	
<b>Testing Of Neutron Data For Fe, Cr, Ni Based On Integral Experiments.....</b>	<b>176</b>
<i>Koshcheev V. N., Manturov G. N., Semenov M. Yu., Tsibouliya A. M.</i>	

<b>Verification Of Neutron Data For Main Reactor Materials From RUSFOND Library Based On Integral Experiments</b> .....	182
<i>Koshcheev V. N., Manturov G. N., Nikolaev M. N., Tsibouliya A. M.</i>	
<b>Point-By-Point Model Description Of Average Prompt Neutron Data As A Function Of Total Kinetic Energy Of Fission Fragments</b> .....	189
<i>Tudora A.</i>	
<b>Author Index</b>	